The goals for this class are three-fold:

* To introduce you to the basic statistical methods used in the theory and practice of International Relations

* To enable you to understand and critique quantitative research in the field of International Relations

* To provide you with the skills necessary to use a computer to perform quantitative analysis

Why is it important for you to learn statistics? Our field of international relations, along with political science, economics, anthropology, geography, sociology and even history is witnessing a communications schism. The schism exists between those who understand and can evaluate quantitative work and those who cannot. With the development of applied mathematical methods and techniques, the widespread use of computers, and the influx into the social sciences of students and researchers with background in mathematics, the schism has broadened. From an academic perspective, in order for you to read many of the journals in the field, from American Political Science Review to World Development, it is essential that you understand these methods. As a citizen, you need to understand these methods because many of the public policy debates use statistics -- correctly and incorrectly. For you to participate fully in society, it is essential that you be a critical consumer of these statistics. And from a very practical perspective, it is critically important for you to understand what works and what does not work in your fields of interest. One of the ways of determining this is through the use of the methods we will learn in this course.

My goal in this course is not to turn you into statisticians or computer scientists. Rather, I believe that it is important for you to have a good grounding in the use of quantitative techniques in social science and applied research. Many of you will have occasion in your
careers to examine articles which use such techniques. Others of you will use some of the
tools we will learn in your classes or the workplace. The main objective of this course is to
ensure that you learn about these techniques and the assumptions underlying them so that you
have confidence in your ability to evaluate work and can distinguish good work from bad (no
more turning pages when you see a table or a chart or – even worse – unquestioningly
assuming that the summary under the chart is the only way the data can be interpreted!).

This is an introductory course. I do not assume that you have had any math since high
school. We will be going rather slowly at first in order to review some of the basic
mathematics and to ensure that you all learn the fundamental material. It is essential that you
let me know if you do not understand any of the material we cover. The most basic questions
often have the most relevant answers for every one.

REQUIREMENTS

This course will meet twice on Tuesdays, once in the classroom and once in the
computer laboratory. Students are strongly advised to attend the lecture and the computer lab
session each week. Reading assignments must be completed before class. Problem sets will
be assigned for each class session and will be due at the beginning of the next class meeting.
Answers to the problem sets are available in the appendix of the primary text and answer keys
will be available from the TA at their weekly problem set review sessions. While the content
of the problem sets will not be graded, each completed and submitted problem set will count
toward one percent of the final grade. Students are strongly encouraged to use the problem
sets to practice for the exams and test your understanding of the material. In addition, students
will write five short papers using statistical techniques. Students are strongly encouraged to
use the articles assigned for each class as examples of how to incorporate statistics into their
writing assignments.

The grading for the course will be based on the completion of weekly homework
assignments (1% each for all that are received the day they are due, no maximum but no late
assignments accepted) , plus three 2-page computer assignments (10% each), one 5-page
computer assignment (20%), a midterm exam (20%), and a final exam (25%). Sloppy or
unprofessional work will be discounted. All late assignments will be penalized ½ a letter grade
for each day they are late. Students are expected to help each other with the mechanics of
SPSS, the writing assignments, and the homework problems, but all papers must be written
and submitted independently. Students are expected to abide by the Georgetown honor code.

Reading material has been assigned for each class meeting. Required and suggested
materials may be purchased at the Leavey Center Book Shop. All readings are on reserve at
the Lauinger College library. Students are encouraged to read the Washington Post, the New
York Times, the Economist or other news sources and should feel free to raise any questions
relating the topics of this course to current events or concerns. This syllabus is subject to
change at the discretion of the professor. Changes will be posted on
BOOKS for PURCHASE


You will also be reading a number of articles which are on reserve in the library. You can access the computer data sets and SPSS from all computer labs on campus that are connected to the University Information Services.

CLASS SCHEDULE & READINGS

Pick up the syllabus and related materials in class. (January 14)

I. **Introduction: Course Overview** (January 21)
What is statistical analysis? What is the role of theory?

Elifson, chs. 1-2, and Appendices A and B.

Katzer, section 1.


George Shambaugh, “The Research Design.”
II. **The Basics** (January 28)
Review of Basic Math, Statistical Notation, Levels of Measurement, Percentages, Graphic Representation, Univariate Statistics, Measures of Central Tendency

** Computer lab sessions begin this week and continue throughout the term. The lab session will take place on Tuesdays from 1:15-2:30 in Reiss 282. **

Elifson, chs. 3-5.

Katzer, sections 2 and 3.

Nicholas Eberstady and Clifford Lewis, "How Many Are Hungry?" (On reserve in the library)


Assignment 1: Use the Research Design method to evaluate “The Pretty Prudent Public” by Jentleson. Two pages. **Due on February 4.**

SECTION 2: **DESCRIPTIVE STATISTICS**

III. **Descriptive Statistics** (February 4)
Measures of Dispersion, the Standard Normal Distribution

Elifson, chs. 6-7.

Katzer, chs. 8-10.


IV-VI. Introduction to Relationships (February 11-25)

Crosstabs and Measures of Association

Computer Assignment 2: Evaluating public opinion. Two pages. Due February 25 at 5:00pm in Professor Shambaugh’s mailbox. Note: Your paper will be evaluated substantively in terms of the “research design” criteria. It will also be evaluated subjectively in terms of its professional quality. Make explicit and precise references to data in the text. Be sure to label and explain the relevance of all numbers -- never let the numbers speak for or stand by themselves. Remember that the goal is to use statistics to support and strengthen an argument. The use of graphs, tables, etc. is encouraged, but include only material that bolsters the specific points you are making. All material should be clean (i.e. proofread and free of errors) and in a format that you would present at a professional meeting (adequate fonts and margins, clear, attractive, and informative). Graphs, tables, slides, etc. should be included in an appendix (beyond the 2-page limit), but explicit references to their findings should be made in the text.

Elifson, ch. 8, 16.

Katzer, ch. 11.


VI. Midterm Exam (March 4)

In class, closed book. No computer lab session this week.

Spring Break!
SECTION 3: INFERENTIAL STATISTICS

VII. Relationships II (March 18)
Probability and Inference

Elifson, chs. 12, 13, 17.

Katzer, chs. 12,13.

VIII. Correlation (March 25)
Strength, Direction, Existence

Elifson, ch. 9.


**Computer Assignment 3:** Assessing arms sales or economic development, tba.
Two pages. **Due on April 8.**

IX. Bivariate Regression (April 1)
Linear Regression, Inferential Statistics

Elifson, chs. 10, 14.

Katzer, ch. 14.


X-XI. Multivariate Regression (April 8)
Hypothesis Testing for Regression

Elifson, ch. 11.

Katzer, ch. 15.


Suggested:

XII-XIII. Applied Multivariate Regression (April 15, April 22)

The final and most important computer assignment: Demonstrate what you have learned by evaluating and expanding on one of the articles assigned for class throughout the semester (except the Jentleson piece from Assignment #1) or one of your own choosing (with the permission of the instructor). Five pages. Due in class on April 29.

Katzer, Section 6.


XIV. Conclusion: Review, Reprise and Riposte (April 29)

Complete unfinished reading.

The Final Exam is Scheduled by the Registrar.